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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,000	12/16/2005	Toshihiko Ohashi	0216-0518PUS1	9147

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EXAMINER

ROBINSON, LAUREN E

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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03/19/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/561,000	Applicant(s) OHASHI ET AL.	
	Examiner LAUREN ROBINSON	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>16 March 2006, 16 December 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction was required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-6, drawn to a film.

Group 2, claim(s) 7-8, drawn to a laminate.

Group 3, claim(s) 9-18, drawn to an optical article.

The inventions listed as Groups 1, 2, and 3 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: In the instant case, the applicant's technical feature that is present in all three groups is the antireflection film comprising silica particles and a polymeric binder having the characteristics set forth in claim 1 of the applicants' disclosure. This technical feature of the film does not provide contribution over the prior art and therefore, the three groups lack unity of invention.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Claims 7-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected laminate and article, there being no allowable generic or linking claim. Election for the film of claims 1-6 was made **with** traverse during a telephonic interview with Garth Dahlen on January 28, 2008.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Toshiaki et al. (JP-2002-079600).

Toshiaki et al. teach an antireflection film (title) comprising particles and a binder wherein the particles are bound through said binder (Par. 0007). The reference teaches that the particles are silica (Par. 0009) and the binder is polymeric (Par. 0007). The film is taught to have a silica particle content of 40 to 80% (Par. 0009), a silicon atom % of 10% (Par. 0009) and a mathematical average surface roughness of 2nm (abstract) and the examiner notes that while the reference does not specifically disclose that the atom % value is obtained by x-ray spectroscopy, the measurement being obtained by this limitation is inherent **(Claim 1)**.

Furthermore, the reference teaches that the polymeric binder is comprised of functional groups which are covalently bound by the silica particles (Par. 0011-0014) **(Claim 2)**. Also, the reference teaches that the molar ratio of the functional groups of said polymer to the silicon atoms is from 0.04 to 0.25 (Par. 0012) **(Claim 3)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being obvious over Toshiaki et al. (JP-2002-079600) in view of Scholz et al (US Patent No. 5,585,186).

As discussed, Toshiaki et al. teach an antireflection film with the applicants' characteristics of claim 1 including 40 to 80% silica being present. They further teach that the film is applied to a substrate (Par. 0006). However, they are silent with regard to the particles being silica string particles with a moniliform or fibrous shape, and the film having a porosity of 3 to 50% by volume.

Regarding claim 4: Scholz et al. teach an antireflection coating composition (abstract) comprised of a polymeric binder (Col. 3, lines 35-40) and metal oxide particles such as silica particles (Col. 4, lines 11-25). Furthermore, Scholz et al. teach that the metal oxide particles are preferably spherical but can be fibrous in order to produce antireflection properties (Col. 4, lines 55-65).

Toshiaki et al. and Scholz et al. disclose analogous inventions related to an antireflection film comprised of silica particles and a binder wherein the film is applied to a substrate. The examiner notes that while Toshiaki et al. does not disclose the shape of the particles, the purpose of both references is to create an antireflection film. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Toshiaki et al. to include that fibrous silica particles can be used in order to produce antireflection properties (**Claim 4**).

Regarding claim 5: The examiner notes that as discussed above, Toshiaki et al. includes that the silica particles can be present at 40 to 80% by weight of said film and due to the modification above, the silica particles can have a fibrous shape (**Claim 5**).

Regarding claim 6: Scholtz et al. also teach that the film has a porosity caused by voids between the metal oxide particles and that the porosity should be between 25 to 45 % by volume in order to minimize reflection of the substrate (Col. 4, lines 10-55).

As discussed above, Toshiaki et al. and Scholtz et al. disclose analogous inventions and as such, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Toshiaki et al. to include that the film has porosity due to the voids between the silica particles can that the porosity should be between 25 to 45% by volume in order to minimize reflection of the substrate **(Claim 6)**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAUREN ROBINSON whose telephone number is (571)270-3474. The examiner can normally be reached on Monday to Thursday 6am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-2721284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gwendolyn Blackwell/
Primary Examiner, Art Unit 1794

Lauren E. T. Robinson
Examiner
AU 1794

/LAUREN ROBINSON/
Examiner, Art Unit 1794